The subject is an exceedingly important one; but it is not new. It is not an *American* disease; and we are sorry to have to record our judgment that this little book does not greatly advance our knowledge of it. In respect to the pathology of the disease the book is meagre and defective. That part in which the treatment is given is the best of all.

IV.—MÜLLER: SPINAL PARALYSIS.

DIE ACUTE ATROPHISCHE SPINALLAEHMUNG DER ERWACHSENEN, POLIOMYELITIS ANTERIOR ACUTA. Eine klinische Studie. Von Dr. Fr. Müller. Stuttgart, F. Enke, 1880. (*Acute Atrophic Spinal Paralysis of Adults.*)

In this agreeably written monograph the author details four cases of this rare disease under his own observation. From these, and a compilation of the literature, he sketches the natural history of the disease. The interest centering in his own cases depends upon the fact, that they are the only ones on record in which electric examinations were carefully made.

The scanty knowledge upon this subject will justify a somewhat detailed review of Müller's description of the course of the disease. The author recognizes two distinct stages. In the first period the paralysis reaches its greatest intensity and remains unaltered for a variable length of time. The second stage begins with the retrogression of the palsy, which constitutes really the criterion of the disease. The invasion commences always with fever of variable intensity. In those few instances in which no fever is said to have been present, the temperature was not taken at the very beginning. A constant initial symptom is pain of a shooting character, without definite location. It may be the first and for a time the only symptom. Its duration is variable, one to fourteen days being the limits in the cases recorded. A diagnosis is of course not possible until the paralysis sets in. Later on pains of a different character are present. These are dull in nature, but well localized in the muscles. They rarely occur spontaneously, but are produced by pressure or passive motion. Other disturbances of sensibility are manifested in formication in the limbs as forerunner of the paralysis. This probably occurs also in the spinal paralysis of children, who are unable to make precise statements. But deficiency of sensibility, anæsthesia, is altogether absent in the course of this disease.

The disease is characterized by the muscular paralysis, its sudden onset, intensity and extension, as well as its gradual but partial retrogression. The paralysis begins quite suddenly, being complete in some hours, or at the utmost some days. The palsied limbs are completely relaxed, and no contractures appear. The disease produces in the adult mostly diffuse palsy, more

distinct parts. Occasionally false hope is inspired by the increase in the size of the limbs due to fatty degeneration. The prognosis is hence always unfavorable as regards the persistence of localized paralyses, but so far, no fatal case has been reported.

The author has had no chance for pathological studies. So far but three subjects have been examined after death from other causes, the most complete report being that by P. Schultze (*Virchow's Arch.*, Bd. 73, H. 3; p. 444, 1878.) All three autopsies characterize the disease as an acute inflammation of the anterior grey horns of the cord, with tendency to spread longitudinally, but not laterally. The later consequences were atrophy of the motor cells and motor nerve fibres and degeneration of the muscles. The author's comments upon these observations we can omit; they contain nothing that is not to be found in all similar articles. They show us, moreover, that he has not escaped the tendency of most writers of monographs, to cover space. The disease is of course, to be ranked with the spinal paralysis of children as well as with progressive muscular atrophy of the adult, differing from the latter of these affections, but mainly by its acute course. We fail to find any discussion however, as regards the peripheral origin, so ably defended by Friedreich, for progressive muscular atrophy. The striking case of the latter affection published by Lichtheim (*Archiv f. Psychiatrie*, Bd. VIII. 3; p. 521) in which the nervous system was found intact, ought to be remembered in all discussions on the pathology of this class of diseases.

As regards the etiology, but little can be ascertained. The age must be of some influence, since the recorded cases show the largest percentage between 14 and 30 years. The only direct cause that could be found was taking cold, in most instances.

The treatment is of course as yet very indefinite, considering our want of precision in other more common spinal diseases. Antiphlogistic treatment has been tried in the beginning without marked effect. The intense pain has been relieved only by the use of morphia. Hammond and others recommend ergot in large doses, claiming to have seen a cure as the result. Müller does not seem to have had any experience with it, but has used belladonna to advantage, without, however, definitely stating the details. The second stage requires tonic influences as well as all assistance we can afford nature in this absorption of inflammatory products. Müller recommends warm baths, but disadvises strychnia on theoretical grounds. The main confidence is placed in electricity. The author has used the constant current daily, applying the anode to the back and the cathode alternately to the palsied muscle, and finishing after the lapse of five minutes with some voltaic alternations. He claims to have obtained better results since the use of this method, both in this disease and in spinal paralysis of children. We cannot, however, find any of his therapeutic statements made in a manner calculated to render them authoritative. H. G.